


INTERNATIONAL PRELIMINARY EXAMINATION REPORT  
(PCT Article 36 and Rule 70)

23 MAR 2005

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|---|--|---|--|
| Applicant's or agent's file reference<br>Case 21419   |  | <b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) |  |
| International application No.<br>PCT/EP 03/10575  | International filing date (day/month/year)<br>23.09.2003 | Priority date (day/month/year)<br>27.09.2002  |  |
| International Patent Classification (IPC) or both national classification and IPC<br>C12N15/55  |  |   |  |
| Applicant<br>DSM IP ASSETS B.V. et al.  |  |   |  |
| <p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p> <p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"><li>I <input checked="" type="checkbox"/> Basis of the opinion</li><li>II <input type="checkbox"/> Priority</li><li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li><li>IV <input type="checkbox"/> Lack of unity of invention</li><li>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li><li>VI <input type="checkbox"/> Certain documents cited</li><li>VII <input type="checkbox"/> Certain defects in the international application</li><li>VIII <input type="checkbox"/> Certain observations on the international application</li></ul> |  |   |  |
| Date of submission of the demand<br><br>09.03.2004  |  | Date of completion of this report<br><br>28.07.2004   |  |
| Name and mailing address of the international preliminary examining authority:<br><br> European Patent Office - P.B. 5818 Patentlaan 2<br>NL-2280 HV Rijswijk - Pays Bas<br>Tel. +31 70 340 - 2040 Tx: 31 651 epo nl<br>Fax: +31 70 340 - 3016   |  | Authorized Officer<br><br>Schneider, P<br><br>Telephone No. +31 70 340-4523   |  |

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**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/EP 03/10575

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**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17):*

**Description, Pages**

1-11 as originally filed

**Claims, Numbers**

1-10 as originally filed

**Drawings, Sheets**

1/3-3/3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☒ furnished subsequently to this Authority in written form.  
☒ furnished subsequently to this Authority in computer readable form.  
☒ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

|                               |             |      |
|-------------------------------|-------------|------|
| Novelty (N)                   | Yes: Claims | 1-10 |
|                               | No: Claims  |      |
| Inventive step (IS)           | Yes: Claims | 1-10 |
|                               | No: Claims  |      |
| Industrial applicability (IA) | Yes: Claims | 1-10 |
|                               | No: Claims  |      |

2. Citations and explanations

**see separate sheet**

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**Re Item II**

**Priority**

The present application validly claims the priority of 27.09.2002 which is therefore the effective filing date.

**Re Item V**

**Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

Reference is made to the following document:

D1: EP-A-0 950 715 (HOFFMANN LA ROCHE) 20 October 1999 (1999-10-20)

**1** The present application relates to a vitamin B<sub>6</sub> phosphate phosphatase (SEQ ID Nos: 9 and 10) from *Sinorhizobium meliloti* for the production of vitamin B<sub>6</sub> which has not been disclosed before in the prior art. Therefore, novelty is given under Art 33(2) PCT.

**2** D1 is the closest prior art and discloses a process for vitamin B<sub>6</sub> production using a cell free system from the same *S. meliloti* strain as used by the present application which differs from D1 in that additionally a vitamin B<sub>6</sub> phosphate phosphatase is recombinantly expressed. The technical effect caused by said difference is the higher yield of vitamin B<sub>6</sub>. The objective technical problem to be solved is the provision of means for higher vitamin B<sub>6</sub> production.

This problem was well in the art. However, the specific solution provided by the present application (the recombinant expression of a specific vitamin B<sub>6</sub> phosphate phosphatase) has not been disclosed nor pointed to in the available prior art. Therefore, an inventive step under Art. 33(3) PCT is given.

**3** The application is regarded as being industrially applicable according to Art. 33(4) PCT.

**Re Item VI**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP 03/10575

**Certain documents cited**

**Certain published documents**

| Application No<br>Patent No | Publication date<br>(day/month/year) | Filing date<br>(day/month/year) | Priority date (valid claim)<br>(day/month/year) |
|-----------------------------|--------------------------------------|---------------------------------|---|
| WO 03 000875                | 03.01.2003                           | 14.06.2002                      | 20.06.2001                                      |

**Re Item VIII**

**Certain observations on the international application**

**3.1** The use of the term "hybridize" used in claim 1(b) renders the scope of said claim unclear under Art. 6 PCT as it is not clear how identical or complementary a sequence has to be in order to fall under the scope of said claim. The scope and meaning of a claim should be clear from the wording of the claim alone (Guidelines, III-4.2), and an independent claim should specify clearly all of the essential features needed to define the invention (Guidelines, III-4.4).

This objection can be overcome by referring to concrete percentages of identity as done in claim 1(d).

**3.2** The terms "pVKPtacpdxP" and "pKKpdxP" used in claims 5, 6, 9 and 10 are internal denomination without well known meaning to the skilled person. Therefore, the requirements of Art. 6 PCT are not met, as it is required according to the Guidelines, III-4.2 that the meaning of a claim has to be clear from the wording of the claim alone.

**3.3** The term "about" used in claim 7 is vague and unclear and leaves the reader in doubt as to the meaning of the technical features to which it refers, thereby rendering the definition of the subject matter of said claim unclear (Art. 6 PCT). The same applies to the use of said terms in the description e.g. on page 5 as it implies that the subject matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity of the claims (Art. 6 PCT) when used to interpret them (see the Guidelines, III-4.3 and 4.3a). Said terms should be removed from the application.

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